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AUTHOR Thomas, Gail E.
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ABSTRACT

This paper addresses specific and general issues regarding data needs and considerations that might improve and better facilitate the collection, use, and interpretation of educational data at the elementary and secondary levels. Specific issues discussed are: (1) preschooling and early education, with emphasis on the nature of preschool education, quality of teachers, and number of children in the system by race, sex and social class; (2) school tracking, concentrating on type of high school programs, concepts and consequences, and distribution of participants; (3) student attrition, calling for attrition patterns and more detailed information on student dropouts; (4) quality of schools survey, asking for differences and similarities in grade promotion, student achievement, and curriculum; (5) teacher and parent surveys, insisting on data on educational background and quality of teachers and extent of parental involvement in school affairs; (6) assessing students' attitudes toward schools and learning and their educational and occupational expectations; (7) transition of students from high school to college; and (8) trends in higher education costs. General issues addressed are: (1) more detailed data on minorities; (2) greater effort to coordinate data collection by various agencies; (3) willingness to receive input from data users and researchers; and (4) continuous collection of longitudinal data. (JAZ)

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ISSUES AND CONSIDERATIONS FOR A TEN-YEAR PROGRAM ON ELEMENTARY AND SECONDARY SCHOOL DATA COLLECTION

by

Gail E. Thomas*

National Academy of Sciences
Office of Scientific and Engineering Personnel
Washington, D.C. 20418

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* Gail Thomas is on leave from Johns Hopkins University's Center for Social Organization of Schools. She is visiting the National Academy of Sciences as a National Research Council fellow.

Introduction

In response to a request by the National Center for Education Statistics, this paper will address specific and general issues regarding data needs and considerations that might improve and better facilitate the collection, use, and interpretation of educational data at the elementary and secondary school levels. The issues discussed will range from preschool education to the transition of students from high school to college. While the matriculation of students from high school to the world of work is acknowledged as an important transitional point, research and data issues regarding school-to-work will not be discussed. The reason is that the author's primary experiences and contributions concern the process of schooling and the matriculation and transition of students at various points in the educational attainment process.

Seven specific issues will be discussed. These issues will address data needs and measures based on the students and schools as the units of analyses. Most educational data collection activities at the elementary, secondary, and postsecondary levels have concentrated largely on obtaining student-level data (i.e., student achievement, aspirations and expectations). However, there is a critical need to better understand the process of schooling and other structural components of elementary and secondary education that are associated with and influence various student outcomes. Thus, in focusing on both students and schools, the need for improving past and present data collection activities and suggestions for new data will be discussed. Also, rather than describe specific questionnaire items and

measures, the discussion will raise questions and address issues around which measures can be developed. These issues are as follows: preschooling and early education, elementary and secondary school tracking, student attrition, quality of schools survey, teacher and parent surveys, assessing student attitudes toward schools and learning, and the transition of students from high school to college.

Preschooling and Early Education

An important issue regarding early childhood education concerns the nature and effects of preschool education (both formal and informal). Several questions should be raised and addressed by data in this regard. First, what percentage of American children do not participate in preschool education, and why don't they participate? What is the composition by race, sex, and social class of children who do participate in preschool education? Secondly, what is the nature of preschool education, and how structured and centralized are preschool curricula? Thirdly, what are the background characteristics and quality of preschool teachers; and to what extent do they differ from those of elementary and secondary school teachers? Fourth, and most importantly, what are the effects of preschool education on student learning and elementary and secondary school education?

Elementary and Secondary School Tracking

In most national surveys that have included measures on school tracking, data have been obtained at the high school level and have been primarily derived from students, or from school records. These

data entail information on the type of high school programs that students are enrolled in (i.e., academic, vocational, general), and the number of credits they have earned in various courses. However, the concept and consequences of tracking extends far beyond these limited measures (Parsons, 1959; Rosenbaum, 1976). For example, the race, sex, and social class stratifications that occur in the classroom are important data that do not exist on a national basis. Also, apart from high school level data, information on tracking patterns in elementary and secondary school are needed.

Thirdly, more detailed data on the type of courses that students take (especially in mathematics and science) will be useful. Studies have found that the type of mathematics and science that high school students take is as equally critical for their access to college (and to various college majors) as the number of mathematics and science courses that they take (Sells, 1976; Berryman, 1983; Thomas, 1984). Finally, institutional or school level data are needed on how students are assigned to various classes and special programs (i.e., special education, and gifted and talented programs) and on the characteristics and qualifications of the teachers that are assigned to these classes and programs.

Student Attrition

Obtaining more accurate and extensive data on student attrition patterns is presently a major data need. In describing the lack of consistency between data collection agencies that report student attrition rates, Cooke and Ginsburg (1985) noted that U.S. Census and

NCES estimates of high school drop-out rates vary as much as 50 percent. A major reason is the different procedures that these agencies employ in measuring attrition. Thus, more coordination among agencies is necessary to resolve or at least to reduce these inconsistencies.

Other important needs regarding student attrition research entail (1) having the necessary data to document attrition patterns much earlier in the educational attainment process (i.e., prior to high school or at the elementary and junior high school level) and (2) obtaining more detailed information on student drop-outs at various educational points. For example, such data should include the race, sex, and social class background of student drop-outs, their records of academic achievement, their attitudes toward school, the reasons that they dropped out of school, and whether they expect to resume their schooling. Also, better data on student re-entry patterns at various points in the schooling process are needed.

Quality of Schools Survey

In recent public documents, it has been argued that the quality of American public education and, subsequently, the quality of its students have declined (National Commission on Excellence in Education, 1983; Coleman, Hoffer, and Kilgore, 1982). However, more detailed and comprehensive data on American public schools are needed to better assess these claims. Therefore, the National Center for Education Statistics should seriously consider undertaking a study of the nation's elementary and secondary public schools. In doing so,

several issues might be addressed. For example, one important issue concerns differences between schools not only in the various states, but also between schools within any given state. An assessment should be made both of the uses of standardized tests in elementary and secondary schools and of the differences and similarities in grade promotion and high school graduation requirements from one school system to another. Still another issue concerns the nature of school curricula and the learning process in elementary and secondary schools. In commenting on both of these features, the National Commission on Excellence in Education (1983) noted that secondary school curricula in American public schools have become too diffuse and that students are not being taught the higher-order thinking skills necessary for successful problem-solving. Therefore, data on the type of curricula and teaching and learning paradigms that are employed in different schools and classes (i.e., academic, special education, etc.) should be useful.

Data that would permit a comparative assessment of school environments and student achievement in private versus public schools, and in predominantly black versus predominantly white elementary and secondary schools, are also needed. The latter data will facilitate an evaluation of the extent to which school desegregation has increased educational opportunity and attainment for minority students. Also, the internal conditions of desegregated schools in terms of race relations and the extent to which resegregation patterns exist among students within school classrooms and in extracurricular activities need to be examined based on more systematic data at the

elementary and secondary school levels. In addition, data on curriculum differences, school facilities, and the characteristics and quality of teachers and students in public and private schools are needed to reassess the findings by Coleman et al (1982) concerning the superiority of private schools over public schools. A more useful inquiry would entail identifying the elements of private school education that might be useful in improving public education.

Teacher and Parent Surveys

Another important aspect of school quality is teacher quality. Thus, given the dearth of data available on teacher quality and teacher performance, a separate survey on teachers (both public and private) needs to be conducted. It has been recently reported that too many public elementary and secondary school teachers are being recruited from the bottom quarter of high school and college graduating classes and that there is a severe shortage in the number and quality of high school mathematics and science teachers (National Commission on Excellence in Education, 1983). These claims need to be better validated by more detailed and systematic data. In addition, information on teacher salary, teacher attitudes, and teacher motivation are needed.

Data about the parents of elementary, junior, and senior high school students are also needed. These data should assess the extent of parental involvement in schools: the values, attitudes, and extent of familiarity that parents have about schools; and parents' perceptions of the type of education that their children are or are

not obtaining. National data on these issues are not available. To assure the participation of low-income families in collecting these data, survey efforts should be augmented by home interviews of a selected sample of these families.

Assessing Student Attitudes Toward Schools and Learning

Data on students' attitudes about schools and their education are very limited and critically needed. In commenting on the importance of such data, members of the Study Group on the Conditions of Excellence in American Higher Education (1984) noted the following:

> An institution that regularly seeks its students' views about the quality of their education experience is manifesting a very different set of values from an institution that makes no such inquiries once the student matriculates. If the only subjects on which we call for student opinion are extracurricular activities, athletics, and food service, we leave the impression that we do not value students as people capable of thinking seriously about their education. (p. 61)

Thus, more detailed and longitudinal student attitudinal data that extends beyond students' self-concept and their educational and occupational expectations are needed. This information should be obtained from high school, as well as junior high school, students who should also be capable of providing useful information about their education.

The Transition of Students from High School to College

The transition of students from high school to college is a critical point in the educational attainment process (Thomas, Alexander and Eckland, 1979). Present surveys sponsored by NCES

(i.e., the National Longitudinal Survey of High School Seniors-1972; High School and Beyond) permit rough estimates of student transition rates from high school to college (i.e., two-year vs. four-year; predominantly black vs. predominantly white). However, additional and/or better data on the selectivity of the postsecondary institutions that students attend, the type of financial aid that potential college students receive, and the reasons that students select various types of colleges are needed.

Also, more extensive data on present trends in higher education cost and student finance of higher education are needed. It has been recently reported, for example, that students are increasingly relying on loans rather than grants and scholarships for their postsecondary education (Miller, 1985) and that educational indebtedness is a primary reason that many disadvantaged minority students are not presently attending four-year colleges and graduate and professional schools (Flamer, Horch, and Davis, 1982). Thus, national and state data that would permit an assessment of trends in the availability and packaging of student aid, as well as the effects of various types of aid on different types of students, should be useful.

Other Issues

Four additional issues regarding the collection of future data should be noted in concluding this discussion. The first concerns the need for more accurate and consistent measures of major variables and definitions of minority groups employed in educational surveys. Cook and Ginsburg (1985) have adequately described the severe problem of

inconsistency regarding state and national data on student high school attrition. Similar problems have been reported in studies of college student attrition (Panos and Astin, 1967; Pantages and Creedon, 1978). Also, more consistency and coordination among data collection agencies on the definition, aggregation, and disaggregation of minority groups are needed.

High school and college attrition rates and other measures of educational attainment differ not only because of different measurement strategies employed by different agencies, but also because of the manner in which members of the various groups being measured are categorized and defined. This is especially true regarding blacks, Asians, and Hispanics--whose educational status and attainment may differ substantially depending upon their cultural and social backgrounds and their country of origin. Thus, more detailed and less gross distinctions (i.e., minority vs. nonminority) should be employed in the recording, collection, and reporting of statistical data on minorities.

Secondly, greater efforts to coordinate data collection activities among state and federal agencies and among researchers are needed. This should assist both in reducing inconsistencies in the conceptualization and operationalization of measures and in reducing unnecessary duplication in collecting data. Thirdly, NCES should be commended for consulting with and obtaining input from data users and researchers during the initial stage of its proposed ten-year program. In fact, these efforts should be continued throughout the various stages of the program.

Fourth and finally, a major priority should be established by NCES to continue and extend longitudinal data collection efforts. Such data will continue to be critical in studying schooling processes and student achievement and attainment over time. NCES' National Longitudinal Survey (NLS) of high school seniors was a massive and important investment that should be continued and extended by subsequent follow-ups. One immediate and important need that a subsequent follow-up of the NLS might serve entails a study of the process and experiences of students in U.S. graduate and professional schools. Also, applying and consistently maintaining a longitudinal approach to the current program that NCES is proposing (especially given a focus on pre-high school and early education) should prove extremely valuable in filling many of the existing voids in educational policy and research.

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